TOP

Film Identification

NewsBank

PRECISION[SM] RESOLUTION TARGETS

LEFT

RIGHT

150 MM

6 ″

PM-3 8½″x11″ PHOTOGRAPHIC GENERAL TARGET
NBS 1010a ANSI/ISO #2 EQUIVALENT

UNITED
NATIONS

WORLD CONFERENCE ON
NATURAL DISASTER REDUCTION

Yokohama, Japan
23-27 May 1994

Distr.
LIMITED

A/CONF.172/L.4
26 May 1994

ORIGINAL: ENGLISH

Agenda item 10 (b)

NATURAL DISASTER REDUCTION: HAZARD-RESISTANT STRUCTURES

Report of Technical Committee B

1. At its 1st plenary meeting, on 23 May 1994, the Conference approved the organization of its work as set out in document A/CONF.172/3 and decided to allocate agenda item 10 (Natural disaster reduction) to the Technical Committees. Technical Committee B was organized by the International Council for Scientific Unions (ICSU) Special Committee for the International Decade for Natural Disaster Reduction, representing both ICSU and the World Federation of Engineering Organizations (WFEO)/Union of International Technical Associations (UITA) and considered agenda item 10 (b) on 23 May.

2. Technical Committee B had before it documents A/CONF.172/8 and Add.1-7, which included the programme of the technical session and summaries of the presentations.

3. The Chairman of Technical Committee B was Mr. Driss Bensari (Morocco). The moderator of the session was Sir James Lighthill, Chairman of the ICSU Special Committee.

4. The following speakers made presentations:

(a) Sir James Lighthill, on behalf of ICSU, who spoke on "What science and technology can do for natural disaster reduction";

(b) Professor Jamilur R. Choudhury, who spoke on "Cyclone shelters in areas prone to storm surge";

(c) Professor Alan G. Davenport, who spoke on "The reduction of structural vulnerability to natural disasters";

(d) Mr. Stuart Mustow and Mr. Scott Steedman, on behalf of WFEO/UATI, who spoke on "Design and construction of buildings to withstand natural disasters";

(e) Professor Anand S. Arya, who spoke on "Protection of non-engineered housing from natural hazards";

(f) Professor Alberto Giesecke, who spoke on "Reconditioning of existing adobe housing to mitigate the effects of earthquakes";

(g) Mr. Ong Eng Long, Malaysian Rubber Producers Research Association, who spoke on "Development of light weight natural rubber-based bearings for earthquake protection of small buildings".

5. The Committee made recommendations in the form of the following two messages:

1. Message for entire communities

6. Communities in disaster-threatened areas need to be given this vital preparedness message: that the community as a whole can work together to achieve, and to benefit from, hazard-resistant structures:

(a) With the community as a whole contributing to the planning of multi-purpose cyclone shelters in coastal areas subject to storm surge - and winning the fullest possible use of them for community purposes;

(b) With key design features (e.g. hip-roof constructions, accompanied by adequate anchorage and bracing) that give protection against extreme winds being insisted upon by communities under threat;

(c) With the community itself taking action to reinforce existing masonry buildings against earthquake hazards by well-tried measures that include e.g. horizontal bands, vertical splints, corner bracing (or wire-mesh reinforcement for adobe buildings).

7. Community leaders - and teachers - have special responsibilities to ensure that this preparedness message (among others) is spread widely among threatened communities.

2. Message for Governments

8. Additional responsibilities (primarily in relation to engineered structures) are shared among national, regional and local governments - along

with other bodies, including the insurance industry and some international agencies:

(a) To acknowledge the key role of those sectors of the economy that influence the construction of buildings and of infrastructure facilities;

(b) To recognize that well-established engineering methods for achieving enormous increases in hazard resistance at just a marginal increase in cost exist - and are incorporated in all modern building codes;

(c) To create the educational and training environment needed to ensure that such methods can be implemented in practice (and in detail).

9. Above all, they need to create policy frameworks that give the industry clear incentives to employ such methods.

UNITED
NATIONS

WORLD CONFERENCE ON
NATURAL DISASTER REDUCTION

Yokohama, Japan
23-27 May 1994

Distr.
LIMITED

A/CONF.172/L.5
26 May 1994

ORIGINAL: ENGLISH

Agenda item 10 (d)

NATURAL DISASTER REDUCTION: INTERRELATIONSHIPS BETWEEN TECHNOLOGICAL AND NATURAL HAZARDS

Report of Technical Committee D

1. At its 1st plenary meeting, on 23 May 1994, the Conference approved the organization of its work as set out in document A/CONF.172/3 and decided to allocate agenda item 10 (Natural disaster reduction) to the Technical Committees. Technical Committee D was organized by the Centre for Urgent Environmental Assistance, United Nations Environment Programme (UNEP) and considered agenda item 10 (b) on 25 May.

2. Technical Committee D had before it documents A/CONF.172/6 and Add.1-8, which included the programme of the technical session and summaries of the presentations.

3. The Committee had the following officers:

Chairman: Mr. YE Ruqiu, Deputy Administrator of the National Environmental Protection Agency, China

Rapporteur: Mr. A. BARISICH, Head of Civil Protection Unit, European Commission

Technical Secretary: Mr. A. CLERC, Coordinator, Centre for Urgent Environmental Assistance, United Nations Environment Programme

4. The following speakers made presentations:

Mr. Jim Makris, Emergency Coordinator, United States Environmental Protection Agency, United States of America

Dr. Evgenii Dmitriev, Director, Institute of Applied Ecology, Ministry of the Environment and Natural Resources Protection, Russian Federation

Mr. Hideaki Oda, Ministry of Construction, Japan

Dr. Channaronk Chandrachoti, National Economic and Social Development Board, Thailand

Mr. Alain Clerc, Coordinator, Centre for Urgent Environmental Assistance, UNEP

Dr. Claudio Margottini, Ente per le Nuove Tecnologie, l'Energia e l'Ambiente (ENEA), Italy

Professor Julio Kuroiwa, National University of Engineering, Peru

Professor Enrico Quarantelli, Disaster Research Center, University of Delaware, United States of America

5. The Committee made the following recommendations:

(a) The concept of "Na-techs" (natural and technological disasters) should be fully recognized in the final conclusion of the conference;

(b) The use of an integrated approach should be developed for the management of natural and technological hazards;

(c) The integrated approach of "Na-techs" should be fully included in environmental aspects of disasters;

(d) In this respect, an important role should be given to cooperation between the private and the public sector;

(e) Planning and environmental impact assessment and the use of advanced models should be promoted both at national and international level;

(f) Decision makers should be made aware of the importance of the prevention of "Na-techs";

(g) Better cooperation between cities in the management of "Na-techs" should be encouraged;

(h) The use of relevant existing international framework and programmes such as the Awareness and Preparedness for Emergencies at the Local Level (APELL) programme and the Centre for Urgent Environmental Assistance of UNEP, the International Decade for Natural Disaster Reduction and the Organization for Economic Cooperation and Development should be developed and better supported;

(i) The vulnerability to "Na-tech" disasters of the developing countries in particular should be recognized;

(j) In this respect, considerations by the international community should be given to the transfer of technology and financial support to the developing countries.

137

UNITED NATIONS

WORLD CONFERENCE ON NATURAL DISASTER REDUCTION

Yokohama, Japan
23-27 May 1994

Distr.
LIMITED

A/CONF.172/L.6
26 May 1994

ORIGINAL: ENGLISH

Agenda item 10 (c)

NATURAL DISASTER REDUCTION: EFFECTS OF DISASTERS ON MODERN SOCIETIES

Report of Technical Committee C

1. At its 1st plenary meeting, on 23 May 1994, the Conference approved the organization of its work as set out in document A/CONF.172/3 and decided to allocate agenda item 10 (Natural disaster reduction) to the Technical Committees. Technical Committee C was organized by the United Nations Centre for Regional Development and considered agenda item 10 (c) entitled "Effects of disasters on modern societies" on 24 May.

2. Technical Committee C had before it documents A/CONF.172/11 and Add.1-8, which included the programme of the technical session and summaries of the presentations.

3. The Committee had the following officers: Chairman, Clem Littleton (Australia); Moderator, Dr. Atsushi Takeda (National Research Institute for Earth Science and Disaster Prevention, Japan); Rapporteur, Dr. Tsuneo Katayama (International Association of Earthquake Engineering, Japan); Technical Secretary, Mr. James Goater (United Nations Centre for Regional Development, Japan).

4. The following speakers made presentations: First part: (a) Mr. Shinjiro Mizutani of Nagoya University spoke on "Disaster management in metropolitan areas"; (b) Mr. Mohan Munasinghe, Chief,

Environmental Policy Division, World Bank, spoke on "Urban environmental degradation and vulnerability to disasters"; (c) Mr. Philippe Masure, International Association of Engineering Geology, spoke on "Risk management and preventive planning in mega-cities: scientific approach for action"; (d) Mr. Yoshikazu Kitagawa, Director, International Institute of Seismology and Earthquake Engineering, spoke on "Coordination and integration of international projects on risk assessment in mega-cities"; (e) Mr. Ibrahim Attwa, Vice-Governor, Cairo Governorate (Commentator); and (f) Mr. Xu Jilin, Chief Engineer of Beijing Municipal Administrative Commission (Commentator). Second part: (a) Mr. Stuart Mustow, President, Institution of Civil Engineers/World Federation of Engineering Organizations, spoke on "Policies for natural disaster reduction in modern societies"; (b) Mr. Niek Rengers, International Astronautical Federation/International Institute for Aerospace Survey and Earth Sciences, spoke on "The application of satellite remote sensing for natural disaster reduction in developing countries"; (c) Mr. Eugene Staffa, Manager, International Mobile Satellite Organization (INMARSAT), spoke on "The use of mobile satellite communications in natural disaster preparedness and emergency response"; (d) Mr. Takashi Onoda, Chairman of the Marine and Fire Insurance Association of Japan, spoke on "The role of non-life-insurance in disaster management systems"; (e) Mr. M. Hanif, Mayor, Dhaka City Corporation (Commentator); and (f) Mr. Bernardo Grau, Director, Office of Disaster Prevention and Emergency Planning, Bogotá (Commentator).

5. For the purpose of this session, the concept of "modern society" is understood to vary according to different contexts and can include mega-cities, metropolitan regions, and even small or medium-sized cities in developed or developing nations. Here the twenty-first century populations will further concentrate, thereby increasing their vulnerability to natural disasters. The session recognized that natural disasters lead to extremely complex emergencies in which population growth, environmental degradation, and socio-political upheaval aggravate the effects of natural disasters and result in greatly increased damage. Urbanized areas are extremely prone due to their concentration of population, resources, and activities, as well as land-use patterns which greatly increase vulnerability. Particularly in developing countries, the urban poor in fragile or high-risk areas should receive increased attention in development planning.

6. The Committee made the following recommendations:

(a) Recommendation 1: Risk assessment has to be incorporated into planning with an emphasis on sustainable development. Developing countries need to be assisted in their efforts to carry out risk assessment utilizing appropriate technology. Megacities need special attention taking into account the built-up areas and the urban fringe where future unplanned development may cause major disasters. Risk assessment should also include an evaluation of (a) the geo-ecological capacity of cities and their surroundings and (b) the differential vulnerability of various urban socio-economic groups to disasters, with an emphasis on the urban poor.

(b) Recommendation 2: The results of applied risk assessment to specific urban areas and regions must be used within the planning and educational processes. They should be applied to heighten the awareness of various sectors

of society: firstly, politicians and decision makers, who should exercise political will manifested through disaster mitigation and preparedness measures; and secondly, communities, which should participate in drafting and implementing disaster plans with enhanced knowledge and information, as well as the capability to sustain necessary non-structural measures.

(c) Recommendation 3: International cooperation in risk assessment and disaster mitigation needs to be enhanced through: (a) establishment of a global institution for technology transfer in the fields of risk assessment and disaster mitigation; (b) establishment of global or regional data banks on disasters and implementation of ways to ensure the exchange of disaster information; (c) establishment of catastrophic loss reserve systems in order to stabilize reinsurance markets in case of devastating natural disasters; and (d) removal of all barriers to free movement of mobile satellite communication devices.

(d) Recommendation 4: Disaster mitigation issues should be prioritized according to their relative importance and urgency. Based on this, recommended programmes and project proposals should be implemented. Initially, emphasis should be on good illustrative case studies on practical and effective disaster mitigation in high-risk disaster-prone developing countries. Case studies should be selected recognizing that prevention is more important than response.

---

(135)

UNITED NATIONS

WORLD CONFERENCE ON NATURAL DISASTER REDUCTION

Yokohama, Japan
23-27 May 1994

Distr.
LIMITED

A/CONF.172/L.7
26 May 1994

ORIGINAL: ENGLISH

Agenda item 11

OUTCOME OF THE CONFERENCE, INCLUDING A PLAN OF ACTION FOR NATURAL DISASTER REDUCTION

Draft Yokohama Message submitted by the Chairman of the Open-Ended Drafting Group of the Main Committee, Mr. Daniel D. C. Don Nanjira (Kenya)

We, the States Members of the United Nations and other States, having met at the World Conference on Natural Disaster Reduction, in the city of Yokohama, Japan, from 23 May to 27 May 1994, in partnership with non-governmental organizations, and with the participation of international organizations, the scientific community, business, industry and the media, deliberating within the framework of the International Decade for Natural Disaster Reduction, expressing our deep concern for the continuing human suffering and disruption of development caused by natural disasters, and inspired by the Yokohama Strategy and Plan of Action for a Safer World,

Affirm that:

1. The impact of natural disasters in terms of human and economic losses has risen in recent years, and society in general has become more vulnerable to natural disasters. Those usually most affected by natural and other disasters are the poor and socially disadvantaged groups in developing countries as they are least equipped to cope with them.

2. Disaster prevention, mitigation, preparedness and relief are four elements which contribute to and gain from the

implementation of sustainable development policies. These elements, along with environmental protection and sustainable development, are closely interrelated. Therefore, nations should incorporate them in their development plans and ensure efficient follow-up measures at the community, national, subregional, regional and international levels.

3. Disaster prevention, mitigation and preparedness are better than disaster response in achieving the goals and objectives of the Decade. Disaster response alone is not sufficient, as it yields only temporary results at a very high cost. We have followed this limited approach for too long. This has been further demonstrated by the recent focus on response to complex emergencies which, although compelling, should not divert from pursuing a comprehensive approach. Prevention contributes to lasting improvement in safety and is essential to integrated disaster management.

4. The world is increasingly interdependent. All countries shall act in a new spirit of partnership to build a safer world based on common interests and shared responsibility to save human lives, since natural disasters do not respect borders. Regional and international cooperation will significantly enhance our ability to achieve real progress in mitigating disasters through the transfer of technology and the sharing of information and joint disaster prevention and mitigation activities. Bilateral and multilateral assistance and financial resources should be mobilized to support these efforts.

5. The information, knowledge and some of the technology necessary to reduce the effects of natural disasters can be available in many cases at low cost and should be applied. Appropriate technology and data, with the corresponding training, should be made available to all freely and in a timely manner, particularly to developing countries.

6. Community involvement and their active participation should be encouraged in order to gain greater insight into the individual and collective perception of development and risk, and to have a clear understanding of the cultural and organizational characteristics of each society as well as of its behaviour and interactions with the physical and natural environment. This knowledge is of the utmost importance to determine those things which favour and hinder prevention and mitigation or encourage or limit the preservation of the environment for the development of future generations, and in order to find effective and efficient means to reduce the impact of disasters.

7. The adopted Yokohama Strategy and related Plan of Action for the rest of the Decade and beyond:

(a) Will note that each country has the sovereign responsibility to protect its citizens from natural disasters;

(b) Will give priority attention to the developing countries, in particular the least developed, land-locked countries and the small island developing States;

(c) Will develop and strengthen national capacities and capabilities and, where appropriate, national legislation for natural and other disaster

prevention, mitigation and preparedness, including the mobilization of non-governmental organizations and participation of local communities;

(d) Will promote and strengthen subregional, regional and international cooperation in activities to prevent, reduce and mitigate natural and other disasters, with particular emphasis on:

(i) Human and institutional capacity-building and strengthening;

(ii) Technology sharing, the collection, the dissemination and the utilization of information;

(iii) Mobilization of resources.

8. The framework of action of the International Decade for Natural Disaster Reduction provides all vulnerable countries, in particular the developing countries, with the opportunity to achieve a safer world by the end of this century and beyond. In this regard, the international community and the United Nations system in particular must provide adequate support to the International Decade for Natural Disaster Reduction, and its mechanisms, especially the secretariat of the Decade to enable them to carry out their mandate.

9. The Yokohama Conference is at a crossroad in human progress. In one direction lie the meagre results of an extraordinary opportunity given to the United Nations and its Member States. In the other direction, the United Nations and the world community can change the course of events by reducing the suffering from natural disasters. Action is urgently needed.

10. Nations should view the Yokohama Strategy for a Safer World as a call to action, individually and in concert with other nations, to implement policies and goals reaffirmed in Yokohama, and to use the International Decade for Natural Disaster Reduction as a catalyst for change.

---

(131)

UNITED NATIONS

WORLD CONFERENCE ON NATURAL DISASTER REDUCTION

Yokohama, Japan
23-27 May 1994

Distr.
LIMITED

A/CONF.172/L.8
26 May 1994

ORIGINAL: ENGLISH

Agenda item 12

ADOPTION OF THE REPORT OF THE CONFERENCE

Algeria* and China: draft resolution

Expression of gratitude to the people and Government of Japan and the City of Yokohama

The World Conference on Natural Disaster Reduction,

Having met in the City of Yokohama at the invitation of the Government of Japan from 23 to 27 May 1994,

1. Extends its deep appreciation to His Excellency Mr. Nobutoshi Akao, Ambassador for Global Environmental Affairs and International Trade of Japan, for his outstanding contribution as President of the World Conference on Natural Disaster Reduction to the successful outcome of the Conference;

2. Expresses its profound gratitude to the Government of Japan for having made it possible for the Conference to be held in Yokohama and for the excellent facilities, staff and services so graciously placed at its disposal;

3. Requests the Government of Japan to convey to the City of Yokohama and the people of Japan the gratitude of the Conference for the hospitality and warm welcome extended to the participants.

---

* On behalf of the States Members of the United Nations that are members of the Group of 77.

YO94-0240 (E)

UNITED NATIONS

WORLD CONFERENCE ON NATURAL DISASTER REDUCTION

Yokohama, Japan
23-27 May 1994

Distr.
LIMITED

A/CONF.172/L.9
26 May 1994

ORIGINAL: ENGLISH

Agenda item 11

OUTCOME OF THE CONFERENCE, INCLUDING A PLAN OF ACTION FOR NATURAL DISASTER REDUCTION

Algeria* and China: draft resolution

Adoption of texts on natural disaster reduction

The World Conference on Natural Disaster Reduction,

Having met at Yokohama from 23 to 27 May 1994,

1. Adopts the Yokohama Strategy for a Safer World: Guidelines for Natural Disaster Prevention, Preparedness and Mitigation, 1/ and the Yokohama Message, 2/ which are annexed to the present resolution;

2. Recommends to the General Assembly of the United Nations at its forty-ninth session that it endorse the texts referred to in paragraph 1 above.

---

* On behalf of the States Members of the United Nations that are members of the Group of 77.

1/ A/CONF.172/L.2 and Corr.1.

2/ A/CONF.172/L.7.

YO94-0246 (E)

UNITED
NATIONS

WORLD CONFERENCE ON
NATURAL DISASTER REDUCTION

Yokohama, Japan
23-27 May 1994

Distr.
LIMITED

A/CONF.172/L.10
26 May 1994

ORIGINAL: ENGLISH

Agenda item 10 (e)

NATURAL DISASTER REDUCTION: ECONOMIC ASPECTS OF
DISASTER REDUCTION FOR SUSTAINABLE DEVELOPMENT

Report of Technical Committee E

1. At its 1st plenary meeting, on 23 May 1994, the Conference approved the organization of its work as set out in document A/CONF.172/3 and decided to allocate agenda item 10 (Natural disaster reduction) to the Technical Committees. Technical Committee E was organized by the United States National Academy of Sciences and the World Bank and considered agenda item 10 (e), entitled "Economic aspects of disaster reduction for sustainable development", on 25 May.

2. Technical Committee E had before it documents A/CONF.172/9 and Add.1, which included the programme of the technical session and summaries of the presentations.

3. The Committee had the following officers: Mr. Victor Osipov (Russian Federation) as Chairman; Ms. Caroline Clarke Guarnizo (United States National Academy of Sciences) and Mr. Mohan Munasinghe as Technical Secretaries.

4. The following speakers made presentations:

(a) Messrs. Romulo Caballeros and Ricardo Zapata-Marti, Economic Commission for Latin America and the Caribbean (Mexico), who spoke on "The impacts of natural disasters on national

economies and the implications for the international development and disaster communities";

(b) Mr. Atiq Rahman, Bangladesh Centre for Advanced Studies (Bangladesh), who spoke on "The context of disasters and sustainable development: the case of a growing city in a developing country";

(c) Ms. Mary Anderson, Collaborative for Development Action (United States), whose paper was on "Disaster vulnerability and sustainable development: a general framework for assessing vulnerability";

(d) Mr. Randall Kramer, School of the Environment, Duke University (United States), who spoke on "Advantages and limitations of benefit-cost analysis for evaluating investments in mitigation";

(e) Mr. Gunter Hecker, Asian Development Bank (Philippines), who spoke on "Disaster-related activities of the Asian Development Bank: an economic perspective";

(f) Mr. Walter Lynn, United States National Committee for the International Decade for Natural Disaster Reduction, who presented the paper by Mr. Howard Kunreuther, Risk Management and Decision Processing Center, University of Pennsylvania (United States) entitled, "The role of insurance in reducing losses from natural disasters";

(g) Mr. Gianfranco de Giusti, Unione Italiana de Riassicurazione (Italy), who spoke on "The Italian Insurance Market Project";

(h) Mr. Wang Fushan, People's Insurance Company of China (China), who spoke on "Insurance industry in the economy on natural disaster in China".

5. Mr. Omar Dario Cardona, National Office for Prevention and Attention to Disasters (Colombia); Mr. Stephen Bender, Organization of American States; and Mr. Harry Jayasingha, Asian Disaster Preparedness Center (Thailand), served as moderators for the Technical Committee.

6. The Committee made the following findings and recommendations:

(a) Disaster prevention and mitigation are essential components of the three main elements of sustainable development, namely economic, social, and environmental;

(b) Reducing vulnerability, especially of the poor, is a key element of disaster prevention strategy;

(c) Multi-disciplinary analysis is essential. In particular, social vulnerability analysis should receive as thorough a treatment as economic and technical analyses;

(d) There is a need for better data and monitoring, especially for indicators of vulnerability in relation to the economic, social, and environmental aspects;

(e) Economic valuation of disaster impacts should be improved further. Where valuation fails, benefit-cost analysis should be used in conjunction with multi-criteria analysis (integrating economic, social, and environmental aspects in a balanced way) in decision-making to reduce vulnerability and increase sustainability. Valuation can help set priorities among those types of impacts which should be addressed and identify which are the most cost-effective measures;

(f) Addressing risk issues should have high priority. This includes risk estimates (uncertainty and ambiguity), coverage (access and multiple hazards), enforcement (legislation and regulation), and sharing (private and public sectors);

(g) In market economies, formal insurance mechanisms are well developed for dealing with all kinds of hazards; however, some insurance elements for natural disasters can be further developed to improve risk reduction. Greater emphasis should be given to applying differential rates in order to encourage adoption of mitigation measures, for example;

(h) Many insurance techniques should be adapted more systematically in the developing world. However, because of the large number of poor and the absence of well-functioning markets, non-formal insurance mechanisms should also be strengthened, drawing upon knowledge based on ways in which societies have traditionally coped with risk;

(i) Developing countries face special challenges in the adoption of disaster mitigation in the process of sustainable development because: they have many poor who are also the most affected by natural disasters; their institutional capacity is weak; resources are inadequate; and markets are lacking;

(j) A high degree of self-reliance is important at the community and the national level to improve resiliency to natural disasters. The international community can do more to assist developing countries to ensure sustainable development. In particular, the development banks should pay greater attention to disaster prevention and mitigation. International assistance dedicated for disaster prevention and mitigation, which has never been great, should be increased because the return on investment can be substantial. Disaster reduction strategies should also be integrated into the full range of sustainable development projects and policies, especially macroeconomic policies which are the most important;

(k) To address the need for capacity-building, training, and resource mobilization for disaster prevention and mitigation in the context of sustainable development, regional centres should be developed, strengthened, and their ties improved.